AMENDMENTS TO THE CLAIMS

The following listing of claims replaces all prior versions and listings of claims.

Listing of Claims:

1. (currently amended) A fuel cell system comprising:

a fluidization apparatus having therein metal particles and electrolyte;

an electrochemical cell stack in fluid communication with the fluidization apparatus, the stack comprising an anode and a cathode;

a fuel delivery pump controlling total flow rate of the metal particles and the electrolyte into the electrochemical cell stack; and

a fluidization pump varying the mass flow rate of the metal particles into the electrochemical cell stack independently of the total flow rate controlled by the fuel delivery pump, wherein the fluidization pump provides a stream comprising electrolyte to the fluidization apparatus at an orientation suitable for fluidizing at least a portion of the metal particles in the fluidization apparatus, wherein a portion of the fluidized metal particles and electrolyte can be delivered to the anode of the electrochemical cell stack by the fuel delivery pump.

2. (previously presented) The fuel cell system of claim 1 wherein the fluidization apparatus further comprises a fluidization jet connected to the fluidization pump for introducing the electrolyte stream into the fluidization apparatus.

3. (original) The fuel cell system of claim 2 wherein the fluidization jet is oriented in an upward direction.

4. (currently amended) ~~The~~ A fuel cell system ~~of claim 1~~ comprising:

a fluidization apparatus having therein metal particles and electrolyte;

an electrochemical cell stack in fluid communication with the fluidization apparatus, the stack comprising an anode and a cathode;

a fuel delivery pump; and

a fluidization pump, wherein the fluidization pump provides a stream comprising electrolyte to the fluidization apparatus at an orientation suitable for fluidizing at least a portion of the metal particles in the fluidization apparatus, wherein a portion of the fluidized metal particles and electrolyte can be delivered to the anode of the electrochemical cell stack by the fuel delivery pump, and

wherein the fluidization apparatus further comprises a spout tube having a first end and a second end, wherein the first end is positioned such that at least a portion of the fluidized metal particles enter the first end.

5. (previously presented) The fuel cell system of claim 4 wherein the fluidization apparatus further comprises a baffle positioned adjacent the second end of the spout tube for redirecting a portion of the fluidized metal particles exiting the second end of the spout tube.

6. (previously presented) The fuel cell system of claim 5 wherein the fluidization apparatus further comprises a feed tube that passes through a surface of the fluidization apparatus providing a flow pathway for the fluidized metal particles and electrolyte out of the fluidization apparatus.

7. (original) The fuel cell system of claim 6 wherein the feed tube is positioned adjacent the second end of the spout tube.

8. (original) The fuel cell system of claim 7 wherein the feed tube further comprises a feed

hole which provides access to the interior of the feed tube.

9. (original) The fuel cell system of claim 6 wherein the fuel delivery pump is connected to the feed tube to facilitate the flow of the fluidized metal particles into the feed tube.

10. (original) The fuel cell system of claim 1 wherein the metal particles comprise zinc, an alloy of zinc or a combination thereof.

11-33. (canceled)

34. (previously presented) The fuel cell system of claim 6 further comprising a splitter element connected to the feed tube, the splitter element having a plurality of openings allowing fluidized metal particles and electrolyte to flow into the feed tube through multiple flow paths.

35. (previously presented) The fuel cell system of claim 34 wherein the plurality of openings comprises a grating.

36. (previously presented) The fuel cell system of claim 34 wherein the splitter element comprises a surface perforated by the plurality of openings.

37. (previously presented) The fuel cell system of claim 36 further comprising a plurality of suction tubes, each suction tube connected to one of the openings and leading to the feed tube.

38. (currently amended) The fuel cell system of claim [[6]] 2 wherein the ~~feed tube~~ fluidization apparatus further comprises a redirection tube and a fluidization tube, the redirection

tube directing the fluidized metal particles from the fluidization ~~apparatus~~ jet into the fluidization tube.

39. (previously presented) The fuel cell system of claim 38 wherein the fluidization tube has an inner diameter greater than an inner diameter of the redirection tube.

40. (previously presented) The fuel cell system of claim 2 wherein the fluidization apparatus further comprises sloped interior walls directing the metal particles by gravity toward the electrolyte stream of the fluidization jet.

41. (currently amended) A fuel cell system comprising:

a fluidization apparatus containing an electrolyte solution and having a fuel inlet for receiving metal particles and an electrolyte solution outlet;

an electrochemical cell stack in fluid communication with the fluidization apparatus;

a fluidization pump circulating the electrolyte solution in a circulation loop through the fluidization apparatus to fluidize at least a portion of the metal particles; ~~and~~

a fuel delivery pump for supplying the fluidized metal particles to the electrochemical cell stack; and

a fluidization input line connected to the electrolyte solution outlet and to the fluidization pump inlet to complete the circulation loop.

42. (previously presented) The fuel cell system of claim 41 further comprising a fluidization jet connected to the fluidization pump for jetting the electrolyte solution into the fluidization apparatus.

43. (previously presented) The fuel cell system of claim 42 wherein the fluidization apparatus further comprises sloped interior walls directing the metal particles by gravity toward the fluidization jet.

44. (previously presented) The fuel cell system of claim 43 further comprising a spout tube having a first and second end, the first end positioned to receive at least a portion of the fluidized metal particles.

45. (previously presented) The fuel cell system of claim 44 further comprising a baffle redirecting at least a portion of the fluidized metal particles exiting the second end of the spout tube.

46. (previously presented) The fuel cell system of claim 45 further comprising a feed tube connected to the fuel delivery pump, the feed tube having an opening disposed within the fluidization apparatus for collecting a portion of the fluidized metal particles.

47. (previously presented) The fuel cell system of claim 46 further comprising a splitter element connected to the feed tube, the splitter element having a plurality of openings allowing fluidized metal particles and electrolyte to flow into the feed tube through multiple flow paths.

48. (previously presented) The fuel cell system of claim 47 wherein the splitter element comprises a surface perforated by the plurality of openings.

49. (previously presented) The fuel cell system of claim 48 further comprising a plurality of suction tubes, each suction tube connected to one of the openings and leading to the feed tube.

50. (currently amended) The fuel cell system of claim [[49]] 42 wherein the ~~feed tube~~ fluidization apparatus further comprises a redirection tube and a fluidization tube, the redirection tube directing fluidized metal particles from the fluidization ~~apparatus~~ jet into the fluidization tube.

51. (previously presented) The fuel cell system of claim 50 wherein the fluidization tube has an inner diameter greater than an inner diameter of the redirection tube.

52 (new) A fuel cell system comprising:

a fluidization apparatus having therein metal particles and electrolyte;

an electrochemical cell stack in fluid communication with the fluidization apparatus, the stack comprising an anode and a cathode;

a fuel delivery pump controlling total flow rate of the metal particles and the electrolyte into the electrochemical cell stack; and

a fluidization pump varying the mass flow rate of the metal particles into the electrochemical cell stack independently of the total flow rate controlled by the fuel delivery pump.